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=> fil hcaplu
FILE 'HCAPLUS' ENTERED AT 09:28:13 ON 24 JUN 2003
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FILE COVERS 1907 - 24 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 23 Jun 2003  (20030623/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d stat que
L4            1 SEA FILE=REGISTRY ABB=ON  COBALT/CN
L8       343310 SEA FILE=HCAPLUS ABB=ON  L4 OR COBALT
L9       191148 SEA FILE=HCAPLUS ABB=ON  TRANSITION(W)METAL? OR LANTHANIDE?
L11          10 SEA FILE=HCAPLUS ABB=ON  (L8 OR L9)(L)(CHELAT? OR COMPLEX?)
                AND (BACTER? OR FUNG?)(W)(DETECT? OR IDEN? OR ASSAY?)


=> d ibib abs hitrn l11 1-10

L11  ANSWER 1 OF 10  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2001:863434  HCAPLUS
DOCUMENT NUMBER:          136:2484
TITLE:                    Mass spectrometric detection of polypeptides
INVENTOR(S):              Little, Daniel; Koster, Hubert; Higgins, G. Scott;
                          Lough, David
PATENT ASSIGNEE(S):       Sequenom, Inc., USA
SOURCE:                   U.S., 50 pp., Cont.-in-part of U.S. Ser. No. 922,201.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.          KIND  DATE          APPLICATION NO.   DATE
     ----------------    ----  --------      ----------------  --------
     US 6322970          B1    20011127      US 1998-146054    19980902
     US 6207370          B1    20010327      US 1997-922201    19970902
     EP 1296143          A2    20030326      EP 2002-25544     19980902
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL
     US 6387628          B1    20020514      US 2000-664977    20000918
     US 2003003465       A1    20030102      US 2001-7557      20011106
PRIORITY APPLN. INFO.:                      US 1997-922201    A2 19970902
                                            EP 1998-943528    A3 19980902
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Searched by M. Smith

US 1998-146054 A3 19980902
US 2000-664977 A1 20000918

AB A process for detg. the identity of a target polypeptide using mass spectroscopy is provided. Depending on the target polypeptide to be identified, a process as disclosed can be used, for example, to diagnose a genetic disease or chromosomal abnormality, a predisposition to a disease or condition, or infection by a pathogenic organism; or for detg. identity or heredity. Kits for performing the disclosed processes also are provided. A process for obtaining information on a sequence of a target nucleic acid mol. by detg. the identity of a polypeptide encoded by the nucleic acid mol. comprises: (a) prepg. the encoded polypeptide from a target nucleic acid mol. by in vitro translation, or by in vitro transcription followed by translation, of the target nucleic acid mol.; (b) detg. the mol. mass of the encoded polypeptide by mass spectrometry; and (c) detg. the identity of the polypeptide by comparing the mol. mass of the polypeptide with the mol. mass of a corresponding known polypeptide, thereby obtaining information on a sequence of nucleotides in the target nucleic acid mol.

IT **7440-48-4D, Cobalt**, ions, supported **chelates**, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in isolation of encoded tagged polypeptide; mass spectrometric detection of polypeptides)

REFERENCE COUNT: 269 THERE ARE 269 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:331247 HCAPLUS
DOCUMENT NUMBER: 134:337915
TITLE: Competitive apo-peroxidase assay
INVENTOR(S): Pugia, Michael J.
PATENT ASSIGNEE(S): Bayer Corporation, USA
SOURCE: U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 990,389, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6228602	B1	20010508	US 1999-415491	19991012
AU 9897074	A1	19990701	AU 1998-97074	19981211
AU 742373	B2	20020103		
JP 11237382	A2	19990831	JP 1998-354203	19981214

PRIORITY APPLN. INFO.: US 1997-990389 B2 19971215

AB Disclosed is an assay for an analyte in a fluid test sample such as urine which involves combining the fluid test sample with a reagent system comprising an apo-peroxidase, a redox dye, a peroxide and a metal porphyrin which is bound to an analyte/analyte specific binding partner complex, which complex has a combined mol. wt. of at least about 180 K Daltons. When this conjugate interacts with analyte in the fluid test sample, a portion of the specific binding partner is dissocd. from the complex thereby enabling the metal porphyrin to reconstitute with the apo-peroxidase. The reconstituted peroxidase can interact with the peroxide and redox dye to provide a colored response to analyte in the fluid test sample. An ascorbate and Hb-resistant reagent for detecting

peroxidase activity was combined with apo-Hb, Fe hematin-LPS conjugate, and antibody to anti-rabbit bacterial LPS in one reagent. The complete reagent detected bacterial cells in urine with three species of gram neg. cells being detected.

IT **7440-48-4D, Cobalt**, deuteroporphyrin **complexes**
, biological studies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(competitive apo-peroxidase assay)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:284225 HCAPLUS
DOCUMENT NUMBER: 134:307594
TITLE: Antibiotic-metal complexes in the detection of gram-negative bacteria and other biological analytes
INVENTOR(S): Olstein, Alan D.; Feirtag, Joellen M.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001027628	A1	20010419	WO 2000-US28577	20001013

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-159142P P 19991013

AB **Complexes** of antibiotics and metals are provided that are useful in detecting bacteria and other biol. analytes, and are particularly useful in detecting gram neg. bacteria. The **complexes** are preferably **chelated complexes** wherein the antibiotic is a polymyxin, a colistin, an aminoglycoside, or an analog or fragment thereof. Methods of using the **complexes** are also provided. Polymyxin B-**cobalt complex** (prepn. given) was used in the cell titrn. of Escherichia coli O157:H7. Chemiluminescence was measured using Luminol reagent.

IT **7440-48-4DP, Cobalt, complex** with polymyxin B, preparation
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(antibiotic-metal **complexes** in detection of gram-neg. bacteria and other biol. analytes)

IT **7440-48-4D, Cobalt**, and isotopes, **complexes** or **chelates** with antibiotics, biological studies
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(antibiotic-metal **complexes** in detection of gram-neg. bacteria and other biol. analytes)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:404774 HCAPLUS
DOCUMENT NUMBER: 131:41802
TITLE: Assay system utilizing apo-peroxidase, a hydroperoxide, a redox dye and a metal porphyrin which is bound to analyte or analyte-specific binding partner conjugate
INVENTOR(S): Pugia, Michael J.
PATENT ASSIGNEE(S): Bayer Corp., USA
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 924521	A1	19990623	EP 1998-122881	19981202
EP 924521	B1	20020717		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 9897074	A1	19990701	AU 1998-97074	19981211
AU 742373	B2	20020103		
JP 11237382	A2	19990831	JP 1998-354203	19981214
PRIORITY APPLN. INFO.:			US 1997-990389 A	19971215

AB Disclosed is an assay for an analyte in a fluid test sample such as urine which involves combining the fluid test sample with a reagent system comprising an apo-peroxidase, a redox dye, a hydroperoxide and a metal porphyrin which is bound to an analyte/analyte specific binding partner which conjugate has a combined mol. wt. of at least about 180 K Daltons. When this conjugate interacts with analyte in the fluid test sample, a portion of the specific binding partner is dissocd. from the conjugate thereby enabling the metal porphyrin to reconstitute with the apo-peroxidase. The reconstituted peroxidase can interact with the hydroperoxide and redox dye to provide a colored response to analyte in the fluid test sample.

IT **7440-48-4D, Cobalt, complex** with deuteroporphyrin, analysis
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(assay system utilizing apo-peroxidase, a hydroperoxide, a redox dye and a metal porphyrin which is bound to analyte or analyte-specific binding partner conjugate)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:172315 HCAPLUS
DOCUMENT NUMBER: 120:172315
TITLE: Microbial degradation of metal complexed cyanides and thiocyanate from mining wastewaters
AUTHOR(S): Boucabeille, C.; Bories, A.; Ollivier, P.; Michel, G.

CORPORATE SOURCE: Lab. Biotechnol. Environ., INRA, Narbonne, 11100, Fr.
SOURCE: Environmental Pollution (Oxford, United Kingdom) (1994), 84(1), 59-67
CODEN: ENPOEK; ISSN: 0269-7491
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A microbiol. examn. of the soil from a CN- wastewater storage basin was carried out. The storage basin contained water from the cyanidation process of Au extn., and it was composed principally of CN-, metal complexed cyanide, mainly cuprocyanide, ferro-ferricyanides and thiocyanate. Pseudomonas species were the principal **bacteria identified** in the soil. Using the storage basin soil as a seed sludge, its potential for the biodegrdn. of all the cyanide complexes in the mining wastewater was studied in the lab., using batch, fed-batch and continuous processes. The NH3 and SO42- produced were quantified. In the continuous process, total degrdn. of all cyanide was obsd. at a diln. rate of 0.066/day.

L11 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:17788 HCAPLUS
DOCUMENT NUMBER: 116:17788
TITLE: Enzyme amplified **lanthanide chelate** luminescence assay
INVENTOR(S): Evangelista, Ramon A.; Templeton, Eva F. Gudgin; Pollak, Alfred
PATENT ASSIGNEE(S): Kronem Systems Inc., Can.
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9108490	A1	19910613	WO 1990-CA391	19901113
W: AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, GR, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU				
RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, GR, IT, LU, ML, MR, NL, SE, SN, TD, TG				
CA 2067394	AA	19910605	CA 1990-2067394	19901113
CA 2067394	C	20011218		
AU 9067150	A1	19910626	AU 1990-67150	19901113
EP 544662	A1	19930609	EP 1990-916446	19901113
EP 544662	B1	19960918		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 5262299	A	19931116	US 1990-612171	19901113
AT 143143	E	19961015	AT 1990-916446	19901113

PRIORITY APPLN. INFO.: GB 1989-27503 A 19891204
WO 1990-CA391 A 19901113

OTHER SOURCE(S): MARPAT 116:17788

AB A method and compds. useful for this method of enzyme-amplified signal detection in anal. assays requiring extremely high sensitivity comprises use of a substrate which is capable of being transformed by an enzyme from a compd. which does not form a luminescent **lanthanide chelate** into a product which does. This method is particularly useful in time-resolved luminescence anal. Thus, salicylaldehyde was oxidized by xanthine oxidase to salicylic acid. The reaction was stopped by adding EDTA, TbCl3, and NaOH and the fluorescence of the 1:1:1

EDTA-salicylic acid-Tb **complex** was detd. at 545 nm. The detection limit was .apprx.5 .times. 10-6 U/mL, a sensitivity comparable to radioactive methods. Substrates for esterases, .beta.-galactosidase, alk. phosphatase, and glucose oxidase were synthesized and the assay using these compds. were demonstrated.

L11 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:494380 HCAPLUS
DOCUMENT NUMBER: 113:94380
TITLE: Method for minimizing interference by reductants when detecting cells in biological fluids
INVENTOR(S): Belly, Robert T.; Sullivan, Sheryl S.; Schmittou, Eric R.
PATENT ASSIGNEE(S): Eastman Kodak Co., USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4912035	A	19900327	US 1987-60559	19870611

PRIORITY APPLN. INFO.: US 1987-60559 19870611

AB A method including cell sepn. (by filtration, centrifugation, or pptn.), cell washing (with Fe2+-**chelate** soln. and nonionic surfactant soln.), and cell detection [by using a reducible dye, preferably a Co(III) **complex**] is adapted to minimize interference by reductants during cell (including bacteria, yeast, fungi, etc.) detection in biol. fluids (urine, blood, etc.). Thus, a urine sample was filtered through a cellulose acetate filter, the filter was then washed with Fe3+-EDTA and Triton X-100, and was removed for cell detection at 610 nm in the presence of Co3+ and 2,3-dimethoxy-5-methyl-1,4-benzoquinone. A **cobalt** chem. coating contg. (2,2'-bipyridine)bis(1,2-diaminoethane)**cobalt** (III) chloride, glucose, diammonium 2-[(5-carboxy-2-pyridyl)azo]-1-naphthol-4-sulfonate, etc. was prepd. for cell detection. Several Fe3+-**chelates** were also prepd. and tested; Fe3+-nitriloacetic acid, Fe3+-iminodiacetic acid, and Fe3+-N-methyliminodiacetic acid were very effective as washing reagents.

IT **7440-48-4D, Cobalt, complexes**
RL: ANST (Analytical study)
(cell detection with redox reagent contg. dye and)

L11 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:201342 HCAPLUS
DOCUMENT NUMBER: 108:201342
TITLE: Analyte detection by means of fluorescent energy transfer
INVENTOR(S): Stavrianopoulos, Jannis; Rabbani, Elazar; Abrams, Samuel B.; Wetmur, James Gerard
PATENT ASSIGNEE(S): Enzo Biochem, Inc., USA
SOURCE: Eur. Pat. Appl., 66 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 242527	A2	19871028	EP 1987-102315	19870218
EP 242527	A3	19890614		
EP 242527	B1	19920513		
R: CH, DE, FR, GB, GR, IT, LI, SE				
US 4868103	A	19890919	US 1986-831250	19860219
CA 1285330	A1	19910625	CA 1987-529682	19870213
JP 62240864	A2	19871021	JP 1987-34696	19870219

PRIORITY APPLN. INFO.: US 1986-831250 19860219

AB An analyte is detected by binding to an agent contg. a 1st fluorescent energy emitter (E1) and binding the **complex** to an agent contg. a 2nd fluorescent energy emitter (E2). Fluorescent energy emitted, e.g., by E1 is absorbed by E2, which is positioned approx. to E1; E2 then emits fluorescence of a longer wavelength than E1, and may do so for a longer period. Detection of either the bathochromic fluorescence or of any fluorescence after a delay period indicates the presence of analyte. Either E1 or E2 can be a **lanthanide** metal, and either or both can be a fluorescent arom. compd.

L11 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:91389 HCAPLUS
DOCUMENT NUMBER: 108:91389
TITLE: Preparation and/or use of 8-hydroxyquinoline derivatives as enzyme substrates for identification of microorganisms producing the enzyme
INVENTOR(S): James, Arthur; Yeoman, Peter
PATENT ASSIGNEE(S): Cogent Ltd., UK
SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 238243	A1	19870923	EP 1987-302016	19870310
R: AT, BE, CH, DE, ES, FR, GR, IT, LI, LU, NL, SE				
WO 8705632	A1	19870924	WO 1987-GB165	19870310
W: GB, JP, US				

PRIORITY APPLN. INFO.: GB 1986-6032 19860312

AB Identification of microorganisms in a sample consists of plating the specimens onto a medium contg. a chromogenic compd. as substrate for the detection of a specific enzyme produced by the microorganism. The enzymic reaction yields a chromogen which is chelated with a metal ion to form a colored ppt. within or around the microorganism. A mixt. of bacteria was multipointed onto agar-peptone medium contg. 8-hydroxyquinoline-.beta.-D-galactoside (prepd. from acetobromogalactose and 8-hydroxyquinoline), ferric ammonium citrate, iso-Pr thiogalactoside and read after overnight incubation at 37.degree.. Only glucosidase-pos. organisms (e.g. E. coli) produced black colonies. Several hundreds of microorganisms were tested for the enzyme, out of which 80-85% of E. coli in the inoculums were detected but no other enterobacteria gave pos. test results.

L11 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1987:60780 HCAPLUS
DOCUMENT NUMBER: 106:60780
TITLE: Rhodium(III) complexes as genotoxic agents:

photochemical effects and their implications
AUTHOR(S): LaVelle, James M.; Krause, Ronald A.
CORPORATE SOURCE: Sch. Pharm., Univ. Connecticut, Storrs, CT, 06268, USA
SOURCE: Mutation Research (1986), 172(3), 211-22
CODEN: MUREAV; ISSN: 0027-5107
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The genetic toxicol. of coordination compds. of **transition metals** has been of considerable interest since the application of cis-platinum(II) to the therapy of solid tumors. The nature of reactions of such compds. with DNA is still unclear, despite intensive investigation. In this study, several coordination compds. of rhodium(III) were tested for DNA-damaging activity and mutagenicity in **bacterial assays** in an attempt to understand both the chem. species involved in interactions with DNA and any structural requirements for such interactions. For several **complexes**, it appears that dissocn. of a ligand from the **complex** precedes reactions with DNA. This conclusion stems from the finding that photosensitive **complexes** of rhodium(III) are often many times more toxic to repair-deficient bacterial strains of Escherichia coli K12 when incubated in the light than when incubated in the dark. Similar responses were seen for mutagenicity in Salmonella typhimurium strain TA100. However, reversion of strain TA102 was largely independent of light exposure. Comparisons between mutagenicity and DNA-damaging activity revealed that the 3 activities measured sorted with some independence among the different compds. tested. Thus, the profiles for crosslink formation and(or) generation of oxidative mutagens (mutagenicity in S. typhimurium strain TA102), mutagenicity in TA100 and DNA-damaging activity for the various groups of **complexes** showed many of the theor. possible combinations of responses in the assays. It is possible, then, that there are different structural requirements for DNA-damaging activity and mutagenicity resp. This may indicate that synthesis of coordination compds. with specific genotoxic properties is possible. Such syntheses may provide **complexes** for study of DNA-metal interactions and could, later, direct an approach to the design of new antitumor agents.

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=> d stat que
L1          197 SEA FILE=REGISTRY ABB=ON  (BACTERIOCIN/BI OR BACTERIOCINS/BI)
L2          114 SEA FILE=REGISTRY ABB=ON  NISIN/BI
L3           35 SEA FILE=REGISTRY ABB=ON  (LANTIBIOTIC/BI OR LANTIBIOTICS/BI)
L4            1 SEA FILE=REGISTRY ABB=ON  COBALT/CN
L5         4443 SEA FILE=HCAPLUS ABB=ON  L1 OR BACTERIOCIN OR ANTIMICROBIAL(W)P
               EPTIDE? OR BACTERIA?(3W)RIBOSOM?(3W)SYNTH?
L6         1722 SEA FILE=HCAPLUS ABB=ON  L2 OR NISIN
L7          448 SEA FILE=HCAPLUS ABB=ON  L3 OR LANTIBIOTIC?
L8       343310 SEA FILE=HCAPLUS ABB=ON  L4 OR COBALT
L9       191148 SEA FILE=HCAPLUS ABB=ON  TRANSITION(W)METAL? OR LANTHANIDE?
L11          10 SEA FILE=HCAPLUS ABB=ON  (L8 OR L9)(L)(CHELAT? OR COMPLEX?)
               AND (BACTER? OR FUNG?)(W)(DETECT? OR IDEN? OR ASSAY?)
L12        1790 SEA FILE=HCAPLUS ABB=ON  (L5 OR L6 OR L7) AND (?BACTER? OR
               FUNG?)(L)(DETECT? OR IDEN? OR ASSAY? OR BIND? OR DETERM?)
L13           1 SEA FILE=HCAPLUS ABB=ON  L12 AND (L8 OR L9)
L14           1 SEA FILE=HCAPLUS ABB=ON  L13 NOT L11

=> d ibib abs hitrn l14
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L14 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:622759 HCAPLUS
DOCUMENT NUMBER: 131:334039
TITLE: Homing in on the role of **transition metals** in the HNH motif of colicin endonucleases
AUTHOR(S): Pommer, Ansgar J.; Kuhlmann, Ulrike C.; Cooper, Alan; Hemmings, Andrew M.; Moore, Geoffrey R.; James, Richard; Kleanthous, Colin
CORPORATE SOURCE: School of Biological Sciences, University of East Anglia, Norwich, NR4 7TJ, UK
SOURCE: Journal of Biological Chemistry (1999), 274(38), 27153-27160
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cytotoxic domain of the **bacteriocin** colicin E9 (the E9 DNase) is a nonspecific endonuclease that must traverse two membranes to reach its cellular target, **bacterial** DNA. Recent structural studies revealed that the active site of colicin DNases encompasses the HNH motif found in homing endonucleases, and bound within this motif a single **transition metal** ion (either Zn2+ or Ni2+) the role of which is unknown. In the present work we find that neither Zn2+ nor Ni2+ is required for DNase activity, which instead requires Mg2+ ions, but **binding transition metals** to the E9 DNase causes subtle changes to both secondary and tertiary structure. Spectroscopic, proteolytic, and calorimetric data show that, accompanying the **binding** of 1 equiv of Zn2+, Ni2+, or Co2+, the thermodn. stability of the domain increased substantially, and that the equil. dissocn. const. for Zn2+ was less than or equal to nanomolar, while that for Co2+ and Ni2+ was micromolar. Our data demonstrate that the **transition metal** is not essential for colicin DNase activity but rather serves a structural role. We speculate that the HNH motif has been adapted for use by endonuclease colicins because of its involvement in DNA recognition and because removal of the bound metal ion destabilizes the DNase domain, a likely prerequisite for its translocation across **bacterial** membranes.

IT **7440-48-4, Cobalt**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(binding effect; role of **transition metals** in the HNH motif of colicin endonucleases)

REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> d stat que
L1          197 SEA FILE=REGISTRY ABB=ON  (BACTERIOCIN/BI OR BACTERIOCINS/BI)
L2          114 SEA FILE=REGISTRY ABB=ON  NISIN/BI
L3           35 SEA FILE=REGISTRY ABB=ON  (LANTIBIOTIC/BI OR LANTIBIOTICS/BI)
L4            1 SEA FILE=REGISTRY ABB=ON  COBALT/CN
L5         4443 SEA FILE=HCAPLUS ABB=ON  L1 OR BACTERIOCIN OR ANTIMICROBIAL(W)P
               EPTIDE? OR BACTERIA?(3W)RIBOSOM?(3W)SYNTH?
L6         1722 SEA FILE=HCAPLUS ABB=ON  L2 OR NISIN
L7          448 SEA FILE=HCAPLUS ABB=ON  L3 OR LANTIBIOTIC?
L8       343310 SEA FILE=HCAPLUS ABB=ON  L4 OR COBALT
L9       191148 SEA FILE=HCAPLUS ABB=ON  TRANSITION(W)METAL? OR LANTHANIDE?
L11          10 SEA FILE=HCAPLUS ABB=ON  (L8 OR L9)(L)(CHELAT? OR COMPLEX?)
               AND (BACTER? OR FUNG?)(W)(DETECT? OR IDEN? OR ASSAY?)
L12        1790 SEA FILE=HCAPLUS ABB=ON  (L5 OR L6 OR L7) AND (?BACTER? OR
               FUNG?)(L)(DETECT? OR IDEN? OR ASSAY? OR BIND? OR DETERM?)
L13           1 SEA FILE=HCAPLUS ABB=ON  L12 AND (L8 OR L9)
L14           1 SEA FILE=HCAPLUS ABB=ON  L13 NOT L11
L15           8 SEA L11 OR L14

=> d abs bib l15 1-8

L15  ANSWER 1 OF 8  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AB   The cytotoxic domain of the bacteriocin colicin E9 (the E9
     DNase) is a nonspecific endonuclease that must traverse two membranes to
     reach its cellular target, bacterial DNA. Recent structural
     studies revealed that the active site of colicin DNases encompasses the
     HNH motif found in homing endonucleases, and bound within this motif a
     single transition metal ion (either Zn2+ or Ni2+) the
     role of which is unknown. In the present work we find that neither Zn2+
     nor Ni2+ is required for DNase activity, which instead requires Mg2+ ions,
     but binding transition metals to the E9
     DNase causes subtle changes to both secondary and tertiary structure.
     Spectroscopic, proteolytic, and calorimetric data show that, accompanying
     the binding of 1 eq of Zn2+, Ni2+, or Co2+, the thermodynamic
     stability of the domain increased substantially, and that the equilibrium
     dissociation constant for Zn2+ was less than or equal to nanomolar, while
     that for Co2+ and Ni2+ was micromolar. Our datademonstrate that the
     transition metal is not essential for colicin DNase
     activity but rather serves a structural role. We speculate that the HNH
     motif has been adapted for use by endonuclease colicins because of its
     involvement in DNA recognition and because removal of the bound metal ion
     destabilizes the DNase domain, a likely prerequisite for its translocation
     across bacterial membranes.
AN   1999:482899  BIOSIS
DN   PREV199900482899
TI   Homing in on the role of transition metals in the HNH
     motif of colicin endonucleases.
AU   Pommer, Ansgar J.; Kuhlmann, Ulrike C.; Cooper, Alan; Hemmings, Andrew M.;
     Moore, Geoffrey R.; James, Richard; Kleanthous, Colin (1)
CS   (1) School of Biological Sciences, University of East Anglia, Norwich, NR4
     7TJ UK
SO   Journal of Biological Chemistry, (Sept. 17, 1999) Vol. 274, No. 38, pp.
     27153-27160.
     ISSN: 0021-9258.
DT   Article
LA   English
SL   English
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L15 ANSWER 2 OF 8 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AB The genetic toxicology of coordination compounds of **transition metals** has been of considerable interest since the application of cis-platinum(II) to the therapy of solid tumors. The nature of reactions of such compounds with DNA is still unclear, despite intensive investigation. In this study, several coordination compounds of rhodium(III) were tested for DNA-damaging activity and mutagenicity in **bacterial assays** in an attempt to understand both the chemical species involved in interactions with DNA and any structural requirements for such interactions. For several **complexes** it appears that dissociation of a ligand from the **complex** precedes reactions with DNA. This conclusion stems from the finding that photosensitive **complexes** of rhodium(III) are often many times more toxic to repair-deficient bacterial strains of E. coli K12 when incubated in the light than when incubated in the dark. Similar responses were seen for mutagenicity in S. typhimurium strain TA100. However, reversion of strain TA102 was largely independent of light exposure. Comparisons between mutagenicity and DNA-damaging activity revealed that the 3 activities measured sorted with some independence among the different compounds tests. Thus, the profiles for crosslink formation and/or generation of oxidative mutagens (mutagenicity in S. typhimurium strain TA102), mutagenicity in TA100 and DNA-damaging activity for the various groups of **complexes** showed many of the theoretically possible combinations of responses in the assays. It is possible, then, that there are different structural requirements for DNA-damaging activity and mutagenicity respectively. This may indicate that synthesis of coordination compounds with specific genotoxic properties is possible. Such syntheses may provide **complexes** for study of DNA-metal interactions and could, later, direct an approach to the design of new antitumor agents.
AN 1987:148370 BIOSIS
DN BA83:77420
TI RHODIUM-III COMPLEXES AS GENOTOXIC AGENTS PHOTOCHEMICAL EFFECTS AND THEIR IMPLICATIONS.
AU LAVELLE J M; KRAUSE R A
CS TOXICOL. PROGRAM, SECT. OF PHARMACOL. AND TOXICOL., SCH. OF PHARMACY, UNIV. OF CONN., STORRS, CONN. 06268.
SO MUTAT RES, (1986) 172 (3), 211-222.
CODEN: MUREAV. ISSN: 0027-5107.
FS BA; OLD
LA English

L15 ANSWER 3 OF 8 MEDLINE
AB The cytotoxic domain of the **bacteriocin** colicin E9 (the E9 DNase) is a nonspecific endonuclease that must traverse two membranes to reach its cellular target, **bacterial** DNA. Recent structural studies revealed that the active site of colicin DNases encompasses the HNH motif found in homing endonucleases, and bound within this motif a single **transition metal** ion (either Zn(2+) or Ni(2+)) the role of which is unknown. In the present work we find that neither Zn(2+) nor Ni(2+) is required for DNase activity, which instead requires Mg(2+) ions, but **binding transition metals** to the E9 DNase causes subtle changes to both secondary and tertiary structure. Spectroscopic, proteolytic, and calorimetric data show that, accompanying the **binding** of 1 eq of Zn(2+), Ni(2+), or Co(2+), the thermodynamic stability of the domain increased substantially, and that the equilibrium dissociation constant for Zn(2+) was less than or equal to nanomolar, while that for Co(2+) and Ni (2+) was micromolar. Our

data demonstrate that the **transition metal** is not essential for colicin DNase activity but rather serves a structural role. We speculate that the HNH motif has been adapted for use by endonuclease colicins because of its involvement in DNA recognition and because removal of the bound metal ion destabilizes the DNase domain, a likely prerequisite for its translocation across **bacterial** membranes.

AN 1999410457 MEDLINE
DN 99410457 PubMed ID: 10480931
TI Homing in on the role of **transition metals** in the HNH motif of colicin endonucleases.
AU Pommer A J; Kuhlmann U C; Cooper A; Hemmings A M; Moore G R; James R; Kleanthous C
CS School of Biological Sciences, University of East Anglia, Norwich NR4 7TJ, United Kingdom.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1999 Sep 17) 274 (38) 27153-60. Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199910
ED Entered STN: 19991026
Last Updated on STN: 19991026
Entered Medline: 19991013

L15 ANSWER 4 OF 8 MEDLINE
AB The genetic toxicology of coordination compounds of **transition metals** has been of considerable interest since the application of cis-platinum(II) to the therapy of solid tumors. The nature of reactions of such compounds with DNA is still unclear, despite intensive investigation. In this study, several coordination compounds of rhodium(III) were tested for DNA-damaging activity and mutagenicity in **bacterial assays** in an attempt to understand both the chemical species involved in interactions with DNA and any structural requirements for such interactions. For several **complexes** it appears that dissociation of a ligand from the **complex** precedes reactions with DNA. This conclusion stems from the finding that photosensitive **complexes** of rhodium(III) are often many times more toxic to repair-deficient bacterial stains of E. coli K12 when incubated in the light than when incubated in the dark. Similar responses were seen for mutagenicity in S. typhimurium strain TA100. However, reversion of strain TA102 was largely independent of light exposure. Comparisons between mutagenicity and DNA-damaging activity revealed that the 3 activities measured sorted with some independence among the different compounds tested. Thus, the profiles for crosslink formation and/or generation of oxidative mutagens (mutagenicity in S. typhimurium strain TA102), mutagenicity in TA100 and DNA-damaging activity for the various groups of **complexes** showed many of the theoretically possible combinations of response in the assays. It is possible, then, that there are different structural requirements for DNA-damaging activity and mutagenicity respectively. This may indicate that synthesis of coordination compounds with specific genotoxic properties is possible. Such syntheses may provide **complexes** for study of DNA-metal interactions and could, later, direct an approach to the design of new antitumor agents.

AN 87064816 MEDLINE
DN 87064816 PubMed ID: 3537777
TI Rhodium(III) complexes as genotoxic agents: photochemical effects and their implications.

AU LaVelle J M; Krause R A
SO MUTATION RESEARCH, (1986 Dec) 172 (3) 211-22.
Journal code: 0400763. ISSN: 0027-5107.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198612
ED Entered STN: 19900302
Last Updated on STN: 19970203
Entered Medline: 19861231

L15 ANSWER 5 OF 8 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AB The cytotoxic domain of the **bacteriocin** colicin E9 (the E9 DNase) is a nonspecific endonuclease that must traverse two membranes to reach its cellular target, **bacterial** DNA. Recent structural studies revealed that the active site of colicin DNases encompasses the HNH motif found in homing endonucleases, and bound within this motif a single **transition metal** ion (either Zn2+ or Ni2+) the role of which is unknown. In the present work we find that neither Zn2+ nor Ni2+ is required for DNase activity, which instead requires Mg2+ ions, but **binding transition metals** to the E9 DNase causes subtle changes to both secondary and tertiary structure. Spectroscopic, proteolytic, and calorimetric data show that, accompanying the **binding** of 1 eq of Zn2+, Ni2+, or Co2+, the thermodynamic stability of the domain increased substantially, and that the equilibrium dissociation constant for Zn2+ was less than or equal to nanomolar, while that for Co2+ and Ni2+ was micromolar. Our data demonstrate that the **transition metal** is not essential for colicin DNase activity but rather serves a structural role. We speculate that the HNH motif has been adapted for use by endonuclease colicins because of its involvement in DNA recognition and because removal of the bound metal ion destabilizes the DNase domain, a likely prerequisite for its translocation across **bacterial** membranes.
AN 1999326741 EMBASE
TI Homing in on the role of **transition metals** in the HNH motif of colicin endonucleases.
AU Pommer A.J.; Kuhlmann U.C.; Cooper A.; Hemmings A.M.; Moore G.R.; James R.; Kleanthous C.
CS C. Kleanthous, School of Biological Sciences, University of East Anglia, Norwich NR4 7TJ, United Kingdom. c.kleanthous@uea.ac.uk
SO Journal of Biological Chemistry, (17 Sep 1999) 274/38 (27153-27160).
Refs: 54
ISSN: 0021-9258 CODEN: JBCHA3
CY United States
DT Journal; Article
FS 004 Microbiology
LA English
SL English

L15 ANSWER 6 OF 8 JICST-EPlus COPYRIGHT 2003 JST
AB DV-7572 injection was examined for mutagenic activity in the reversion test with **bacterial assays** using Salmonella typhimurium strains TA1535,TA1537,TA98 and TA100 and Escherichia coli strain, WP2uvrA. The doses for the assays were selected from a dose rangefinding study conducted on the test material at dose levels of 1.23,2.45,4.90,9.81,19.6,39.2,78.5,157,314,628,1256,2511,5022 and 10045 .MU.g per plate using the S.typhimurium strain, TA100 and the E.coli strain WP2uvrA. The test material was nontoxic to both strains in this

dose rangefinding study. The dose selected for the mutation assays were 1,10,100,500,1000,2499,4998 and9997 .MU.g per plate for the independent repeat assays. The test material, DV-7572 injection did not exhibit genetic activity in these assays and was not mutagenic under these test conditions according to our assay criteria. (author abst.)

AN 930550957 JICST-EPlus
TI Mutagenicity Studies of DV-7572 Injection (1): Reversion Test with Bacteria.
AU JAGANNATH D R
SHIMADA HIROYASU
CS Hazleton Washington Inc.
Daiichi Seiyaku Co., Ltd.
SO Yakuri to Chiryo (Japanese Pharmacology & Therapeutics), (1993) vol. 21, no. Suppl 3, pp. S.875-S.879. Journal Code: Z0947A (Tbl. 4, Ref. 4)
ISSN: 0386-3603
CY Japan
DT Journal; Article
LA Japanese
STA New

L15 ANSWER 7 OF 8 JICST-EPlus COPYRIGHT 2003 JST
AB To determine the value of repeated intraperitoneal cisplatin(CDDP) administration in treating malignant ovarian tumor(ip treatment), we studied the intracorporeal dynamics and tissue concentrations of CDDP as well as its safety and clinical effects in 29 cases. The blood concentration of total-Pt showed higher preadministration levels with the increase in the number of administrations, The difference continued to increase at the same rate for 24 to 72 hours after administration. On the other hand, free-Pt was not detected in the blood before each administration even after repeated administrations, but showed relatively high levels immediately after the ip treatment up to the 2nd hour. Also the changes in free-Pt concentration in the ascites showed a pattern similar to that in the blood. On initial administration of CDDP, the total-Pt concentration in the overian tumor tissue waS 0.19-0.76.MU.g/g in iv. 1.26-1.84 .MU.g/g in ip, and 0.89-4.85.MU.g/g in ia. The total-Pt concentration in the ovarian tumor tissue following repeated ip treatments tended to be higher than that after the first ip treatment. After 10 or more repeated ip tretment, no tendency of aggravation in renal function was observed. The **bacterial detection** rate by an indweling intraperioneal tube was 40.5 %(15/47), and almost all isolated bacteria were CNS. A slight increase in the WBC was recognized in 2 cases (abridged author abst.)

AN 930036956 JICST-EPlus
TI Intracorporeal dynamics, safety and clinical results of repeated intraperitoneal cisplatin (CDDP) administration in treating malignant ovarian tumors.
AU IWASA TAKESHI; USUI NAOYUKI; SUZUKI MASAAKI; TAKADA MICHIO
CS Juntendo Univ., School of Medicine
SO Juntendo Igaku (Juntendo Medical Journal), (1992) vol. 38, no. 3, pp. 418-427. Journal Code: G0715A (Fig. 9, Tbl. 3, Ref. 19)
CODEN: JUIZAG; ISSN: 0022-6769
CY Japan
DT Journal; Article
LA Japanese
STA New

L15 ANSWER 8 OF 8 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-281830 [29] WPIDS
CR 2001-282097 [29]

AB WO 200126673 A UPAB: 20010822
NOVELTY - A **complex** (I) comprising a cyclic antibiotic and at least one of a **lanthanide** or a **transition metal** is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) (I) comprising polymyxin (especially polymyxin B or colistin) and a metal;

(2) detecting gram negative bacteria in a sample suspected of containing gram negative bacteria, comprises contacting the sample with (I) such that the **complex** binds to the gram negative bacteria to yield a bound **complex**, separating the bound **complex** from any nonbound **complex**, where the presence of a bound **complex** is indicative of the presence of gram negative bacteria;

(3) detecting disease in a patient suspected of having the disease, comprising introducing a detectable **complex** comprising a cyclic antibiotic, a metal and a delivery molecule into the patient, where the delivery molecule targets the **complex** to a disease cell, if present, and detecting the presence or absence of the **complex** at a site within the patient, where the presence of the **complex** at the site is indicative of the presence of a disease in the patient site;

(4) detecting the presence of gram negative bacteria in a patient suspected of comprising gram negative bacteria, comprising introducing a detectable **complex** containing a cyclic antibiotic and a metal into the patient, and detecting the presence of the **complex** at the site is indicative of the presence of gram negative bacteria in the patient;

(5) introducing a detectable **complex** into a patient, comprising a cyclic antibiotic, a metal and a delivery molecule targeting the **complex** to a disease cell, to detect disease by detecting the **complex** at a site, indicative of a disease cell, or treat infection, disease or autoimmune dysfunction; and

(6) detecting gram negative bacteria in a food sample, comprising incubating the sample with immunomagnetic beads coated with antibody to the gram negative bacterium such that gram negative bacteria bind to the immunomagnetic beads, magnetically removing the immunomagnetic beads from the sample and contacting the immunomagnetic beads with the detectable **complex** to yield a detectable bound **complex**, and assaying the immunomagnetic beads for the presence or absence of detectable bound **complex**, where the presence of a detectable bound **complex** is indicative of the presence of gram negative bacteria in the food sample.

ACTIVITY - antibacterial; antiautoimmune; cytostatic.

MECHANISM OF ACTION - No details provided.

USE - The **complex** is useful for detecting gram negative bacteria in samples, especially in food samples, medical samples (e.g. medical fluid) or biological samples (e.g. body tissue), e.g. in food processing or medical sterilization. It is useful to detect gram negative bacteria in patients, by introducing a detectable **complex** (especially comprising polymyxin B) and detecting the **complex** at a site within the patient; the **complex** may also be used therapeutically to kill or disable the gram negative **bacteria detected** at the site. It may be combined with a delivery molecule e.g. a monoclonal antibody to target the **complex** to a disease cell (e.g. a bacterial cell, cancer cell or cell involved in autoimmune dysfunction) in a patient, useful diagnostically and therapeutically to detect and treat infection, disease or autoimmune dysfunction (all claimed). Polymyxin B pentasulfate (80 mg, 0.05 mmol) was dissolved in 5 ml 0.05 M acetate buffer, pH 5.5, incubated at room temperature with **cobalt** chloride (12 mg, 0.055 mmol) and purified by column

chromatography by known methods. UV-absorbing fractions (polymyxin B-**Cobalt** (II) **complex**) were collected and freeze dried. A titration curve for E. coli O157:H7 was then produced. Bacteria were diluted in sterile saline to 10 CFU (colony forming unit)/ml, incubated (20 minutes room temperature) with 20 micro g/ml polymyxin B-**Cobalt** (II) **complex**, centrifuged and resuspended in 0.1 ml saline. Chemiluminescence was measured using 0.2 ml proprietary reagent in a luminometer. A ground beef sample was then tested for E. coli O157:H7 using a known immunomagnetic capture technique for separation of bacteria from ground beef samples (Pyle et al., Appl. Environ. Microbiol., 65:1966-1972 (1999)), and treatment of collected beads bearing E. coli O157:H7 cells (resuspended in 1.0 ml saline) with 20 micro g/ml polymyxin B-**Cobalt** (II) **complex**. Cells were collected in a particle concentrator, re-suspended in 0.1 ml saline and assayed for chemiluminescence, no results are included.

Dwg.0/8

AN 2001-281830 [29] WPIDS

CR 2001-282097 [29]

DNN N2001-200922 DNC C2001-085763

TI New **complex** comprising a cyclic antibiotic and a **lanthanide** or **transition metal**, useful e.g. for detecting gram negative bacteria in food, medical or biological samples or in diagnosis and treatment of diseases e.g. cancer in patients.

DC B04 C06 D13 D16 K08 P31 S03

IN FEIRTAG, J M; OLSTEIN, A D

PA (KALL-N) KALLESTAD LAB INC

CYC 93

PI WO 2001026673 A1 20010419 (200129)* EN 35p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001010835 A 20010423 (200147)

ADT WO 2001026673 A1 WO 2000-US28358 20001013; AU 2001010835 A AU 2001-10835 20001013

FDT AU 2001010835 A Based on WO 200126673

PRAI US 1999-159142P 19991013